REMARKS

Claims 1-41 are rejected under 35 U.S.C. 102(b) as being anticipated by Schipper (U.S. Patent Number 5,983,159). In view of the following remarks, the rejections are respectfully traversed, and reconsideration of the rejections is requested.

In the present invention as claimed in claims 1-19, a method of determining position using a global position satellite (GPS) signal includes, when determining position of a receiver using first and second GPS signals from a first GPS satellite, measuring pseudo ranges from the first and second GPS signals and estimating the position of the receiver by using differences of a plurality of pairs of immediately consecutive pseudo ranges. Pseudo ranges (p1, p2, p3, p4) at respective times (t1, t2, t3, t4) are measured and the position of the receiver is estimated by using the differences of a plurality of pairs of immediately consecutive pseudo ranges, for example, p1-p2, p2-p3, and p3-p4.

Claims 1-19 are amended to clarify that the position of the receiver is estimated by using the differences of the plurality of pairs of immediately consecutive pseudo ranges. It is believed that these amendments to the claims clarify the distinctions between the claimed invention and the cited references.

In the present invention as claimed in claims 20-36, an apparatus for determining position using a GPS satellite includes a processor that determines a position of a receiver using first and second GPS signals from a first GPS satellite, measures pseudo ranges from the first and second GPS signals and estimates the position of the receiver using differences of a plurality of pairs of immediately consecutive pseudo ranges.

Claims 20-36 are amended to clarify that the processor estimates the position of the receiver using differences of the plurality of pairs of immediately consecutive psuedo ranges. It is believed that these amendments to the claims clarify the distinctions between the claimed invention and the cited references.

In the present invention as claimed in claims 37-41, an apparatus for determining position using a GPS satellite includes a position calculation unit that determines a position of a receiver

using first and second GPS signals from a first GPS satellite. The position calculation unit measures pseudo ranges from the first and second GPS signals and estimates the position of the receiver using differences of a plurality of pairs of immediately consecutive pseudo ranges.

Claims 37-41 are amended to clarify that when the position calculation unit estimates the position of the receiver using differences of the plurality of pairs of immediately consecutive pseudo ranges. It is believed that these amendments to the claims clarify the distinctions between the claimed invention and the cited references.

Schipper discloses that pseudo ranges are measured from one or more satellites at two or more selected, spaced-apart observation times, and the simultaneous rotations of the body and the satellite(s) relative to each other result in different body-satellite constellations for which the coordinates of a point on a rotating body are determined. In Schipper, in the situation where signals are received from a single satellite, at two different observation times, three difference equations, from equation 10 formed using four times t_m, t_n=t1, t2, t3, and t4 ($t_m \neq t_n$), produce three linear equations. The three difference equations use differences between t1 and t2 (m=1, n=2), t1 and t3 (m=1, n=3), and t1 and t4(m=1, n=4) (see Schipper, equations 10, 18, 20 and 21). Therefore, Schipper uses differences between the first pseudo range and multiple subsequent different psuedo ranges. That is, Schipper does not use a plurality of pairs of immediately consequtive pseudo ranges, as set forth in the amended claims.

Therefore, Schipper fails to teach or suggest the claimed method of determining position using a GPS signal that includes estimating a position of a receiver using differences of a plurality of pairs of immediately consecutive psuedo ranges, as claimed in claims 1-19. Instead, in Schipper, m is equal to 1, so the three difference equations use differences between the first pseudo range and multiple subsequent different psuedo ranges, therefore not using differences of a plurality of pairs of immediately consecutive psuedo ranges. Schipper further fails to teach or suggest an apparatus for determining position using a GPS signal that includes a processor that estimates a position of a receiver using differences of a plurality of pairs of immediately consecutive pseudo ranges, as claimed in claims 20-36. Instead, in Schipper, m is equal to 1, so
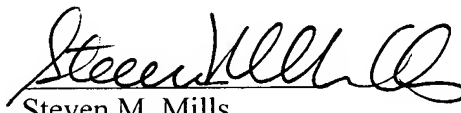
the three difference equations use differences between the first pseudo range and multiple subsequent different psuedo ranges, therefore not using differences of a plurality of pairs of immediately consecutive psuedo ranges. Schipper further fails to teach or suggest an apparatus for determining position using a GPS signal that includes a position calculation unit that estimates a position of a receiver using differences of a plurality of pairs of immediately consecutive pseudo ranges, as claimed in claims 37-41. Instead, in Schipper, m is equal to 1, so the three difference equations use differences between the first pseudo range and multiple subsequent different psuedo ranges, therefore not using differences of a plurality of pairs of immediately consecutive psuedo ranges.

Because Schipper fails to teach these claimed elements of the invention, it is believed that the claims are allowable over the cited reference, and reconsideration of the rejections of claims 1-41 under U.S.C. 102(b) as being anticipated by Schipper is respectfully requested.

In view of the foregoing remarks, it is believed that, upon entry of this Amendment, all claims pending in the application will be in condition for allowance. Therefore, it is requested that this Amendment be entered and that the case be allowed and passed to issue. If a telephone conference will expedite prosecution of the application, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

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